CLAIMS LISTING

1.-76. (canceled)

77. (currently amended) A method for aspirating fluid from an ocular region during a phacoemulsification procedure, comprising:

aspirating the ocular region by applying a series of modulated differential pressure pulses to the ocular region via a tubing deformation fluid control device configured to selectively deform and substantially close aspiration tubing to provide aspirating fluid from the ocular region, and

delivering modulated ultrasonic energy to the ocular region simultaneous with said aspirating;

wherein selectively deforming and substantially closing aspiration tubing occurs in a controlled nonrandom manner such that fluid is aspirated according to an alterable and controllable nonrandom timing scheme, and further wherein timing of the series of modulated differential pressure pulses is selectively alterable relative to timing of the modulated ultrasonic energy delivery.

78. (original) The method of claim 77, wherein aspirating comprises delivering a series of pulses having a negative pressure differential from ambient for duration less than 100 milliseconds.

79. (original) The method of claim 78, wherein said negative pressure differential pulses are interspersed by brief de minimis pressure differential pulse periods.

80. (original) The method of claim 77, wherein negative pressure differential pulses are delivered using a phacoemulsification handpiece.

81. (original) The method of claim 77, further comprising delivering modulated ultrasonic energy to the ocular region simultaneous with said aspirating.

82. (original) The method of claim 81, wherein timing of modulated ultrasonic energy delivery corresponds to timing of the series of modulated pressure differential pulses.

83. (original) The method of claim 81, wherein timing of modulated ultrasonic energy delivery differs from timing of the series of modulated pressure differential pulses.

84. (original) The method of claim 81, wherein application of modulated ultrasonic energy delivery tends to induce transient cavitation in the ocular region.

85. (original) The method of claim 77, wherein each pressure differential pulse is at most approximately 25 milliseconds.

86. (original) The method of claim 77, wherein each pressure differential pulse is at most approximately eight milliseconds.

87-108. (canceled)

109. (currently amended) A method for aspirating fluid from an ocular region, comprising:

applying a series of modulated differential pressure pulses to the ocular region via a tubing deformation fluid control device configured to selectively deform and substantially close aspiration tubing to provide aspirating fluid from the ocular region[[,]]; and

delivering modulated ultrasonic energy to the ocular region simultaneous with said applying;

wherein selectively deforming and substantially closing aspiration tubing occurs via the tubing deformation fluid control device in a controlled nonrandom manner such that fluid is aspirated according to an alterable and controllable nonrandom timing

scheme, and further wherein timing of the series of modulated differential pressure pulses is selectively alterable relative to timing of the modulated ultrasonic energy delivery.

110. (previously presented) The method of claim 109, wherein applying comprises delivering a series of pulses having a negative pressure differential from ambient for duration less than 100 milliseconds.

111. (previously presented) The method of claim 110, wherein said negative pressure differential pulses are interspersed by brief de minimis pressure differential pulse periods.

112. (previously presented) The method of claim 109, wherein negative pressure differential pulses are delivered using a phacoemulsification handpiece.

113. (previously presented) The method of claim 109, further comprising delivering modulated ultrasonic energy to the ocular region simultaneous with said applying.

114. (previously presented) The method of claim 113, wherein timing of modulated ultrasonic energy delivery corresponds to timing of the series of modulated pressure differential pulses.

115. (previously presented) The method of claim 113, wherein timing of modulated ultrasonic energy delivery differs from timing of the series of modulated pressure differential pulses.

116. (previously presented) The method of claim 113, wherein application of modulated ultrasonic energy delivery tends to induce transient cavitation in the ocular region.

117. (previously presented) The method of claim 109, wherein each pressure differential pulse is at most approximately 25 milliseconds.

118. (previously presented) The method of claim 109, wherein each pressure differential pulse is at most approximately eight milliseconds.

119. (currently amended) A method for aspirating fluid from an ocular region, comprising:

applying modulated differential fluid pressure pulses to the ocular region by selectively deforming and substantially closing aspiration tubing, thereby providing aspirating fluid from the ocular region, wherein selectively deforming and substantially closing aspiration tubing occurs in a controlled nonrandom manner such that fluid is aspirated according to an alterable and controllable nonrandom timing scheme; and

delivering modulated ultrasonic energy to the ocular region simultaneous with said applying;

wherein timing of the modulated differential fluid pressure pulses is selectively alterable relative to timing of the modulated ultrasonic energy delivery.

120. (previously presented) The method of claim 119, wherein applying comprises delivering a series of pulses having a negative pressure differential from ambient for duration less than 100 milliseconds.

121. (previously presented) The method of claim 120, wherein said negative pressure differential pulses are interspersed by brief de minimis pressure differential pulse periods.

122. (previously presented) The method of claim 119, wherein negative pressure differential pulses are delivered using a phacoemulsification handpiece.

123. (previously presented) The method of claim 119, wherein timing of modulated ultrasonic energy delivery corresponds to timing of the series of modulated pressure differential pulses.

124. (previously presented) The method of claim 119, wherein timing of modulated ultrasonic energy delivery differs from timing of the series of modulated pressure differential pulses.

125. (previously presented) The method of claim 119, wherein application of modulated ultrasonic energy delivery tends to induce transient cavitation in the ocular region.

126. (previously presented) The method of claim 119, wherein each pressure differential pulse is at most approximately 25 milliseconds.

127. (previously presented) The method of claim 119, wherein each pressure differential pulse is at most approximately eight milliseconds.

128. (currently amended) A method for treating an ocular region, comprising:

applying modulated differential pressure pulses to the ocular region to aspirate the ocular region by selectively deforming and substantially closing aspiration tubing, thereby providing aspirating fluid from the ocular region, wherein selectively deforming and substantially closing aspiration tubing occurs via the tubing deformation fluid control device in a controlled nonrandom manner such that fluid is aspirated according to an alterable and controllable nonrandom timing scheme; and

delivering modulated ultrasonic energy to the ocular region simultaneous with said applying;

wherein timing of the modulated differential fluid pressure pulses is selectively alterable relative to timing of the modulated ultrasonic energy delivery.

129. (previously presented) The method of claim 128, wherein applying comprises delivering a series of pulses having a negative pressure differential from ambient pressure for a duration of less than 100 milliseconds.

130. (previously presented) The method of claim 129, wherein said negative pressure differential pulses are interspersed by brief de minimis pressure differential pulse periods.

131. (previously presented) The method of claim 129, wherein negative pressure differential pulses are delivered using a phacoemulsification handpiece.

132. (previously presented) The method of claim 128, wherein timing of modulated ultrasonic energy delivery corresponds to timing of the series of modulated pressure differential pulses.

133. (previously presented) The method of claim 128, wherein timing of modulated ultrasonic energy delivery differs from timing of the series of modulated pressure differential pulses.

134. (previously presented) The method of claim 128, wherein applying modulated ultrasonic energy delivery tends to induce transient cavitation in the ocular region.

135. (previously presented) The method of claim 128, wherein each pressure differential pulse is at most approximately 25 milliseconds.

136. (previously presented) The method of claim 128, wherein each pressure differential pulse is at most approximately eight milliseconds.

137. (currently amended) A method for aspirating fluid during a phacoemulsification procedure, comprising:

applying a series of modulated differential fluid pressure pulses to an ocular region during the phacoemulsification procedure by selectively deforming and substantially closing aspiration tubing, thereby providing aspirating fluid from the ocular region[[,]]; and

delivering modulated ultrasonic energy to the ocular region simultaneous with said applying;

wherein selectively deforming and substantially closing aspiration tubing occurs in a controlled nonrandom manner such that fluid is aspirated according to an alterable and controllable nonrandom timing scheme;

wherein timing of the modulated differential fluid pressure pulses is selectively alterable relative to timing of the modulated ultrasonic energy delivery.

138. (previously presented) The method of claim 137, wherein said applying occurs using a fluid control device.

139. (previously presented) The method of claim 137, wherein applying comprises delivering a series of pulses having a negative pressure differential from ambient.

140. (previously presented) The method of claim 139, wherein delivering the series of pulses having the negative pressure differential for a series of durations of less than 100 milliseconds.

141. (previously presented) The method of claim 140, wherein said negative pressure differential pulses are interspersed by brief de minimis pressure differential pulse periods.

142. (previously presented) The method of claim 138, wherein negative pressure differential pulses are delivered using a phacoemulsification handpiece.

143. (previously presented) The method of claim 137, further comprising delivering modulated ultrasonic energy to the ocular region simultaneous with said aspirating.

144. (previously presented) The method of claim 143, wherein timing of modulated ultrasonic energy delivery corresponds to timing of the series of modulated pressure differential pulses.

145. (previously presented) The method of claim 143, wherein timing of modulated ultrasonic energy delivery differs from timing of the series of modulated pressure differential pulses.

146. (previously presented) The method of claim 143, wherein application of modulated ultrasonic energy delivery tends to induce transient cavitation in the ocular region.

147. (previously presented) The method of claim 139, wherein each pressure differential pulse is at most approximately 25 milliseconds.

148. (previously presented) The method of claim 139, wherein each pressure differential pulse is at most approximately eight milliseconds.

149. (new) The method of claim 77, wherein the tubing deformation fluid control device comprises a rotating element configured to deform the tubing at controlled intervals.

150. (new) The method of claim 77, wherein the tubing deformation fluid control device comprises a tubing stretching arrangement configured to stretch the tubing at controlled intervals.

151. (new) The method of claim 77, wherein the tubing deformation fluid control device comprises a linearly translational element configured to deform the tubing at controlled intervals.

152. (new) The method of claim 109, wherein the tubing deformation fluid control device comprises a rotating element configured to deform the tubing at controlled intervals.

153. (new) The method of claim 109, wherein the tubing deformation fluid control device comprises a tubing stretching arrangement configured to stretch the tubing at controlled intervals.

154. (new) The method of claim 109, wherein the tubing deformation fluid control device comprises a linearly translational element configured to deform the tubing at controlled intervals.

155. (new) The method of claim 119, wherein selectively deforming and substantially closing aspiration tubing occurs using a rotating element configured to deform the aspiration tubing at controlled intervals.

156. (new) The method of claim 119, wherein selectively deforming and substantially closing aspiration tubing occurs using a tubing stretching arrangement configured to stretch the aspiration tubing at controlled intervals.

157. (new) The method of claim 119, wherein selectively deforming and substantially closing aspiration tubing occurs using a rotating element configured to deform the aspiration tubing at controlled intervals.

158. (new) The method of claim 128, wherein selectively deforming and substantially closing aspiration tubing occurs using a rotating element configured to deform the aspiration tubing at controlled intervals.

159. (new) The method of claim 128, wherein selectively deforming and substantially closing aspiration tubing occurs using a tubing stretching arrangement configured to stretch the aspiration tubing at controlled intervals.

160. (new) The method of claim 128, wherein selectively deforming and substantially closing aspiration tubing occurs using a rotating element configured to deform the aspiration tubing at controlled intervals.

161. (new) The method of claim 137, wherein selectively deforming and substantially closing aspiration tubing occurs using a rotating element configured to deform the aspiration tubing at controlled intervals.

162. (new) The method of claim 137, wherein selectively deforming and substantially closing aspiration tubing occurs using a tubing stretching arrangement configured to stretch the aspiration tubing at controlled intervals.

163. (new) The method of claim 137, wherein selectively deforming and substantially closing aspiration tubing occurs using a rotating element configured to deform the aspiration tubing at controlled intervals.